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REMARKS

Attorney for Applicants submits this Letter of Response to discuss and distinguish the presently claimed invention from the references cited by the Examiner. It is believed that the presently claimed invention is patentably distinct from the reference's teachings and, therefore, in condition for allowance. Such action is respectfully solicited.

The Examiner has rejected Claims 32-35, 40-42, 44-47, 49-51, 53-55, 57-62 and 64-65 under 35 USC 102(b) as being fully anticipated by the teachings of Kumar et al. (U.S. Patent 5,079,202). It is respectfully submitted that this rejection is unwarranted and should be withdrawn.

The Examiner correctly notes that Kumar et al. discloses catalyst material, which comprises (1) a zeolite, (2) an inorganic matrix, and (3) a pollucite. The Examiner further notes that the claims of the present application contain "consisting essentially of" language and thereby limit the scope of the claims to the specified ingredients and those that do not affect the basic and novel characteristics of the composition. In view of the above-observed items, it is clear that Kumar et al. does not teach nor direct one skilled in the art to the presently claimed invention.

Kumar et al. requires one to form a catalyst having pollucite as part of its composition. The reference teaches that this material has a material effect on the resultant catalyst composition. Kumar teaches that the activity characteristics of their catalyst can "be improved by the addition of about 1 to 50 weight percent of pollucite." The teaching of Kumar et al directs one to include pollucite in their catalyst composition and, thereby, directs one away from the instantly claimed invention. The presently claimed catalyst, which does not include the prior taught pollucite as a component, is, by definition, distinct from that of Kumar et al.

Further, the presently claimed catalyst composition is patentably distinct, as it provides a materially different catalyst composition. It is well known that the combined presence of alkali metal and vanadium causes catalyst compositions to rapidly loose activity. The presently claimed catalyst will not be subject to poisoning from the combined presence of the alkali metal, Cs, of the pollucite required by Kumar

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et al., and vanadium, which is commonly part of petroleum feed stream compositions. The presently claimed invention provides a catalyst composition of high kinetic conversion activity, which can retain such activity over a sustained period. It does not contain the Cs of pollucite, which would contribute to the poisoning of the catalyst system.

Applicants have unexpectedly found that the defined components of the presently claimed invention can be formed to achieve the combined indicated Davison Attrition Index of less than 20 and kinetic conversion activity of at least 3 without the presence of pollucite, as required by Kumar et al. The presently claimed composition consists essentially of at least 70% by weight of a zeolite of Y type with the remainder substantially composed of an alumina sol. The presently claimed composition does not, by definition, contain a component, such as pollucite, that would materially effect the catalyst composition (as taught by Kumar et al. to raise the catalyst's conversion activity and, as known in the art, to aid in poisoning the catalyst during use).

Finally, Applicants have unexpectedly found that by using the particular components defined by the claim, one can achieve catalyst material that has good ability to retain its particle configuration.

The Examiner, citing *In re De Lajarte* 143 USPQ 256, contends that Applicants have the burden of showing that the basic and novel characteristics of the claimed composition would be materially changed. However, the Court goes on to state that "it cannot be assumed that small differences between references (composition) and Applicants (composition) are incapable of causing a difference in properties where the reference's record fails to teach the presently achieved properties. Applicants have established, in the experimental section of the present application, that the presently claimed composition has certain desired and novel combination of properties. Further, it is well known by those skilled in the art that the combination of alkali metal and vanadium poisons zeolite catalyst systems. Applicants claimed catalysts do not contain the alkali metal of pollucite and, therefore, are not subject to poisoning therefrom. It is respectfully submitted that Applicants have met the burden set forth by the Court.

This holding is particularly true when the claimed subject matter is directed to the highly unpredictable and empirical art of catalyst chemistry.

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The Examiner's mere contention that, because the elements that are the subject of the present claims are *part* of the recipe taught by Kumar et al., then the remaining elements of the Kumar recipe can be dismissed and the prior art deemed to anticipate the present claims, is not appropriate here.

The term "consisting essentially of" is used in the present claims to limit the scope thereof to catalyst compositions having the defined components (i) and (ii) and having certain physical and chemical properties. The Examiner's contention that such properties would inherently be present with respect to the composition of Kumar et al. is not correct. The presently claimed properties can be altered by manners well known to those skilled in the art. Such properties are not factors solely derived from the components of the composition and, thus, cannot be deemed to be inherently present in the compositions of Kumar et al.

It is respectfully submitted that the teachings of Kumar et al. do not anticipate nor suggest the presently claimed invention. The rejection based on Kumar et al. should, therefore, be withdrawn. Such action is respectfully solicited.

The Examiner has rejected claims 36-50 under 35 USC 102(b) as being anticipated by Kukes et al. (U.S. 5,308,814). It is respectfully submitted that this rejection is unwarranted and should be withdrawn.

Kukes et al. is directed to a catalyst incorporating mixtures of platinum and palladium on a zeolite Y support, and, in addition, a refractory inorganic oxide. The disclosed composition has a zeolite concentration of from 10-90% by weight. Kukes further requires the presence of sodium within a certain weight range.

It is respectfully submitted that the catalyst of Kukes et al. is distinctly different from that presently claimed. The presently claimed catalyst does not have platinum and/or palladium supported on or present with the zeolite component. Further, the presently claimed catalyst is not required to have sodium in certain prescribed amounts (Kukes et al. teaches that sodium must be added in certain cases or removed in other cases to achieve the target range deemed critical by them).

The Examiner, (with respect to Kukes et al., as well as Kumar et al.) seems to take the position that any prior art teaching is anticipatory of the present claims if it suggests a high content zeolite and a refractory inorganic oxide without regard for

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other active components required by such prior art teaching. Such a position is untenable and does not reflect the "consisting essentially of" language presently used.

In *In re De Lajarte, supra*, the Court stated that an Applicant can meet his burden of distinguishing over the references composition by pointing out in the specification and claims the differences between the prior art and the presently claimed composition. The Court stated that such statement is sufficient and it would not assume that even small differences in composition would be incapable of providing Applicants required property. Here, Applicants have required the claimed catalyst to have certain kinetic conversion activity and Davison Attrition Index without the addition of other active materials such as platinum and/or palladium.

Applicant believes that the presently claimed invention is not disclosed nor suggested by Kukes et al. Withdrawal of the rejection is respectfully solicited.

The Examiner has rejected Claims 43, 48, 52, 56, and 63 under 35 USC 103(a) over Kumar et al. in view of Herbst et al. and claims 32-35 and 40-65 over Kumar et al. in view of Herbst et al. and Chester et al. Withdrawal of these rejections is respectfully solicited.

Kumar et al. does not teach nor suggest the presently claimed catalyst. The defects of Kumar et al. are discussed herein above. The defects of that reference is not overcome by the teachings of Herbst et al., nor by the combined teachings of Herbst et al. and Chester et al.

Further, there is no suggestion in either reference to combine their teachings in the manner suggested by the Examiner. Herbst et al. is directed to a multi-component catalyst composition comprising a cracking catalyst, a large pore molecular sieve, a shape selective paraffin cracking zeolite and a shape selective aliphatic aromatization zeolite. Admittedly such catalyst systems can contain zeolites of the Y type. However, merely their application in such a system does not provide the suggestion to combine the teaching of Herbst et al. with that of Kumar et al.

In the case of Chester et al., this reference is directed to a catalyst having a number of components, which are dissimilar from those of Kumar et al. and also from those of the presently claimed invention. The most that can be said about Chester et al. is that it points out that there is a complex relationship between pore volume and

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attrition resistance and that both parameters are important to achieve a desired catalyst. While the Examiner contends that achieving such parameters is merely optimization of the catalyst components, such cannot be deemed applicable in the unpredictable art of catalyst chemistry nor can it be deemed applicable where the present composition is of such limited components.

Applicants have found that in this unpredictable art of catalytic chemistry one can achieve an effective catalyst composition having desired combinations of properties while limiting the components used to the specific combination of components and amounts, as presently claimed. It is respectfully submitted that this invention is neither disclosed nor made obvious by the cited art of record. Withdrawal of the rejection is respectfully solicited.

Applicants believe that the Examiner will agree that the present application and claims are patentably distinct and, further, are free from formal and art rejection. It is respectfully submitted that the present application is in condition for allowance. Such action is respectfully solicited.

Respectfully submitted,



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